



ROLL-OUT GYM SEATS

There's no opening for people, belongings, or debris to fall through a Hussey Closed Deck.

Closed stand has smooth vertical face. Maximum depth is 3'8".



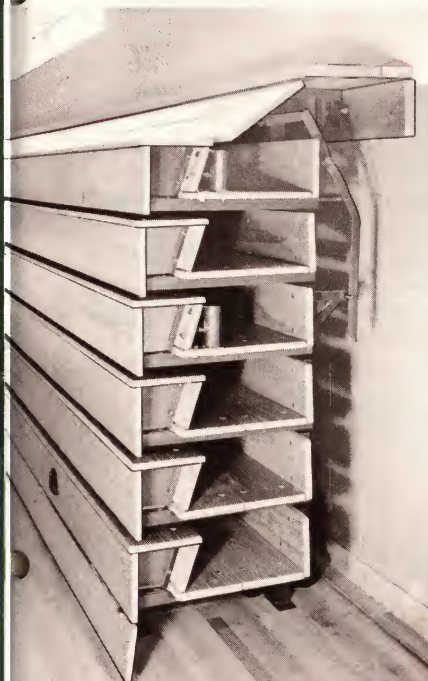
the only Roll-Out gym seats with:

- a closed deck
- a box girder seat section
- a truss supporting frame

the CLOSED DECK insures maximum PERSONAL SAFETY.

the BOX GIRDER and TRUSS provide maximum STRUCTURAL SAFETY.

no other gym seats have these three features.



HUSSEY MFG. CO., INC.

NORTH BERWICK, MAINE

ironworkers since 1835

new gym seat design

Hussey's Closed Deck design is still new, even though in use in over 500 installations in 32 states, because it is the only major improvement in gym seat design in more than 20 years. It was specifically engineered with features which insure maximum PERSONAL SAFETY and CONVENIENCE for spectators. Hussey's completely enclosed walkway has no opening for an accident. Seats are of simple, trouble-free construction and operate easily.

fully closed deck

This one feature distinguishes Hussey Roll-Out seats from all other gym seating. Front and rear risers eliminate the illusion of height and the hazard of slipping through the stands. The 16" or 18" footboards are at least 39% wider than on any other seats. The Closed Deck insures safe, firm footing for spectators who leap suddenly to their feet to cheer wildly. It facilitates getting into or out of the stands past those already seated. Personal possessions cannot drop to the floor. No embarrassment is caused by youngsters beneath seats. A fire hazard is eliminated because no trash collects under the stands. Sweeping time is decreased 25% because trash can be pushed directly into containers. Stands may be closed with trash inside and cleaned when convenient. It is not necessary to clean under them in order to close them. The Closed Deck created these major improvements in personal safety and convenience.

box girder construction

The second exclusive feature of Hussey Roll-Out gym seats is the box girder type construction. The box girder consists of two riserboards and the seatboard which are held in proper relation by 8 steel diaphragms inside each 16' box girder section. It has a sectional modulus of 55 inches³. This is 25 to 30 times greater than that of any other retractable bleacher. The box girder Safety Factor of 7 to 1 was engineered to virtually eliminate deflection. This does away with the dangerous cantilever action found at the end of conventionally supported seatboards. It also increases rigidity, reduces lateral sway, and prevents excessive stress, strain, and wear at bolted connections. Under a test load of 12,220 lbs., a single 16' row for 12 persons had minimal deflection of 1-9/16" which did not approach elastic limits. When unloaded the seatboards immediately returned to normal.

steel truss supporting frame

The third distinctive feature of Hussey Roll-Out gym seats is its steel truss underframe. The supporting columns of each row of seats are 1½" and 2" square steel tubing. These columns are tied together with horizontal steel 2½"x2½"x3/16" angle iron braces. Beginning with the third row, two diagonal steel braces connect the vertical columns and the box girder. These diagonal braces vary from 1½"x1½"x3/16" to 2½"x2½"x3/16" depending on the height of the row. The combination of vertical, horizontal, and diagonal braces plus the box girder is one of the strongest and most rigid arrangements possible. The entire unit has a Safety Factor of 4 to 1 and all load carrying members have steel-to-steel connections.



safety code requirements

These seats equal or exceed all safety requirements or specifications of the American Standards Association, the Pennsylvania Code (Hussey Penna. Certificate No. 1902), the American Institute of Steel Construction, the U. S. Forest Products Laboratory, and the National Lumber Manufacturers Association. These stands are engineered to withstand the stresses and strains of excited spectators. They are fully braced diagonally and horizontally with steel to resist side or end sway.

positive locking device

An extra feature is the positive, mechanical cam and dog lock. Stands can be operated only with a key that fits all units. Seats may be locked with one row, or all rows extended.

minimum maintenance

The only moving parts on these seats are the scissors-type paralleling device, the locking device, the casters, and the automatic closure panel on the top row. There are no hinged or complicated assemblies to get out of adjustment. U. S. Forest Products Laboratory tests showed Arkansas Long Leaf Yellow Pine has greater strength; is harder and more resistant to splintering, scuffing, and denting; is tougher and less susceptible to shocks and heavy blows; and has more bolt holding power than other lumber commonly used for bleacher seats. These features plus Hussey's 125 year reputation for quality Maine craftsmanship assure long, trouble-free operation and a minimum of maintenance.

easy operation

Oversize, smooth-rolling, oilless bearing casters and the simple, effective, scissor-type paralleling device cause Hussey Roll-Out gym seats to open and close easily. These 4" casters tested to 3966 lbs. before failure, or a Safety Factor of 8 to 1.

• dimensions and capacities

No. Tiers	No. of 16" Seats per section	Overall Height	22" Spacing		24" Spacing	
			Open	Closed	Open	Closed
3	36	3'- 0 $\frac{3}{4}$ "	4'- 7 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	4'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
4	48	3'-10 $\frac{3}{8}$ "	6'- 5 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	6'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
5	60	4'- 8"	8'- 3 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	8'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
6	72	5'- 5 $\frac{5}{8}$ "	10'- 1 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	10'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
7	84	6'- 3 $\frac{1}{4}$ "	11'-11 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	12'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
8	96	7'- 0 $\frac{7}{8}$ "	13'- 9 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	14'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
9	108	7'-10 $\frac{1}{2}$ "	15'- 7 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	16'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
10	120	8'- 8 $\frac{1}{8}$ "	17'- 5 $\frac{3}{4}$ "	2'-11 $\frac{1}{4}$ "	18'-11 $\frac{3}{4}$ "	3'-1 $\frac{1}{4}$ "
11	132	9'- 5 $\frac{3}{8}$ "	19'- 3 $\frac{3}{4}$ "	3'- 4 $\frac{3}{8}$ "	20'-11 $\frac{3}{4}$ "	3'-6 $\frac{3}{8}$ "
12	144	10'- 3 $\frac{3}{8}$ "	21'- 1 $\frac{3}{4}$ "	3'- 4 $\frac{3}{8}$ "	22'-11 $\frac{3}{4}$ "	3'-6 $\frac{3}{8}$ "
13	156	11'- 1"	22'-11 $\frac{3}{4}$ "	3'- 5 $\frac{1}{8}$ "	24'-11 $\frac{3}{4}$ "	3'-7 $\frac{1}{8}$ "
14	168	11'-10 $\frac{3}{8}$ "	24'- 9 $\frac{3}{4}$ "	3'- 5 $\frac{1}{2}$ "	26'-11 $\frac{3}{4}$ "	3'-7 $\frac{1}{2}$ "
15	180	12'- 8 $\frac{1}{4}$ "	26'- 7 $\frac{3}{4}$ "	3'- 5 $\frac{7}{8}$ "	28'-11 $\frac{3}{4}$ "	3'-7 $\frac{7}{8}$ "

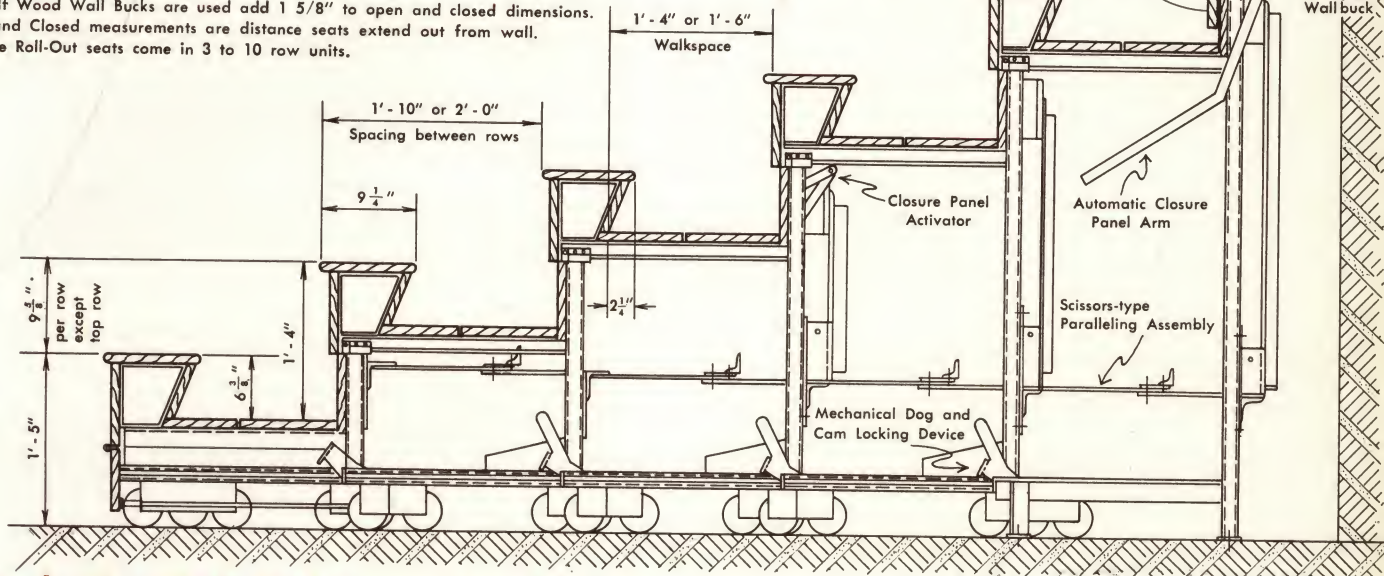
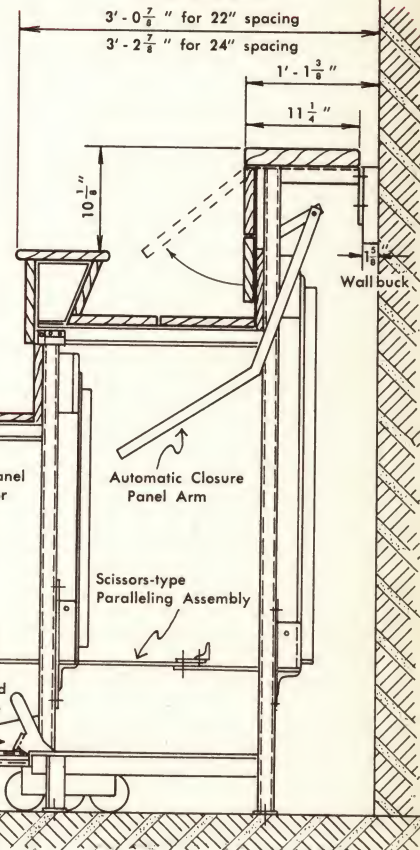
Note: If Wood Wall Bucks are used add 1 5/8" to open and closed dimensions. Open and Closed measurements are distance seats extend out from wall. Portable Roll-Out seats come in 3 to 10 row units.

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CLOSED DIMENSIONS — 6 Tiers
(With Wall Buck)

3' - 0 $\frac{7}{8}$ " for 22" spacing

3' - 2 $\frac{7}{8}$ " for 24" spacing



standard specifications — see back cover

appearance

Standard Hussey seats are slightly tinted Arkansas Long Leaf Yellow Pine. They are also available at slight extra cost in dark finish or in Genuine African Mahogany. These seats improve the appearance of any gym. When closed, the stands fit snugly against the wall and occupy at most 3'8" of space (see table of dimensions). The well finished risers provide a smooth, flush wood surface. The vertical face prevents climbing up closed stands and avoids knee injuries in gym classes. The Closed Deck and End Panels completely conceal the steelwork.

accessories

End Rails, End Closure Panels, Vent Grilles, Aisle Steps, Scorer's Tables, Tablet Arm Brackets, Hydraulic Dollies, and Tractor Units are available if desired.

portable Roll-Out gym seats

Portable units are identical with standard wall-attached units except that they are limited for safety to 3 to 10 rows high. They can be re-located easily on the hydraulic dollies provided with each installation. Portable units increase the flexibility of seating arrangements and increase alternate-purpose usage.

engineering service

Hussey's experienced seating engineers are available at all times for consultation without cost or obligation. Because most installations have to be engineered to fit the desired location, it is suggested that you ask a factory representative to call and determine detailed requirements. A firm quotation will be submitted promptly.

• other HUSSEY products

(separate catalogs available on request)

Models 6, 8FA, and 10 portable sectional steel bleachers for indoor and outdoor use.

Permanent Grandstands custom built to any size and specifications. Hot-dip galvanized steel.

HUSSEY MFG. CO., INC.

standard specifications

scope of work

- (a) Where indicated on plans supply and install Roll-Out Gym Seats.
- (b) Roll-Out Gym Seats shall all be standard wall attached type, except where portable sections, including one pair of dollies, are required.
- (c) The following accessories shall be included:
 - End Rails
 - Scorer's Table
 - Ventilating Grilles: Wire Slotted
 - End Closure Panels
 - Aisle Steps
 - Tablet Arm Brackets
 - Tractor Unit

design & construction

- (a) The Roll-Out Gym Seats shall be designed and constructed to support, in addition to their own weight, a live load of 120 lbs. per lineal foot of both seat and footboard, and to resist by adequate diagonal bracing a horizontal sway load applied lengthwise to the seats, of 24 lbs. per lineal foot of seatboard. Under these loads, stresses in steel shall conform to the standard specifications of the American Institute of Steel Construction, and stresses in wood shall not exceed those recommended by the National Lumber Manufacturers Association.

manufacturer

- (a) Roll-Out Gym Seats with fully closed decks are to be furnished as manufactured by the Hussey Mfg. Company, Inc., North Berwick, Maine, or approved equal.

dimensions

- (a) Depth per row, 22" or 24" measured horizontally from front edge of one seatboard to the front edge of the next seatboard.
- (b) Rise per row, 9 $\frac{3}{8}$ " measured vertically from top of one seatboard to top of next seatboard.
- (c) Height of seat, 16" measured vertically from top of footboard to top of corresponding seatboard.

unit construction

- (a) Each group shall consist of one or more independent units, the length of each unit to be as near 16'0" as conditions permit.
- (b) Each unit shall be completed in itself, consisting of steel structure and closed deck connected together to form one integral assembly with means of attaching said unit where required to floor and walls (except portable units.)
- (c) Each tubular steel column of the unit except the rear column shall be equipped with four 4-inch diameter wheels made of a plastic composition. Each wheel shall be equipped with suitable oilless bearings.
- (d) Two diagonal angle iron braces shall be installed under each row of seats to resist end sway. These, plus the steel tie bars near the lower end of the supports, shall create a structural steel truss.
- (e) Each section shall be equipped with hinged front skirtboard into which is set a Yale type lock. All locks shall be keyed alike. Immediately behind the front skirtboard shall be three spring loaded plungers, which, when the front skirtboard is lifted, shall slide ahead freeing a locking mechanism that mechanically controls the operation of the stand. This mechanism, when the front skirtboard is down, shall hold the stand locked in position.
- (f) Each tier shall be equipped with a positive scissors-type paralleling device to prevent "cocking" or rubbing on adjacent stands when a section is being opened or closed.

fully closed deck

- (a) These Roll-Out Gym Seats shall have a completely closed deck for additional personal safety and to prevent refuse collecting under the unit.
- (b) Seatboard risers and deck shall form a complete unit reinforced with steel diaphragms so as to form a box girder type construction. The riserboard under the rear of the seatboard shall be placed at an angle so as to provide extra toe space.
- (c) All lumber shall be of B and C grade kiln dried Arkansas Pine, having an allowable fibre stress of not less than 1800 lbs. per square inch. All lumber shall be finished not less than 25/32" in thickness.
- (d) Seatboards shall be B grade kiln dried Arkansas Pine, to finish not less than 25/32" thick and 9 $\frac{1}{4}$ " wide with edges rounded.

We reserve the right to improve materials or design without notice.

- (e) Alternate: All lumber to be Genuine African Mahogany finished $\frac{7}{8}$ " thick.

finish

- (a) All steel parts of the understructure shall be properly cleaned and finished in best quality schoolroom brown enamel.
- (b) All wood parts shall be given one sealer coat, and two coats of clear Rynalon finish shall be applied to all exposed surfaces.

installation

- (a) Installation shall be performed under the manufacturer's supervision. Each unit shall be securely attached to the floor and walls unless it is of the movable type.
 - The construction of the floor is: Fixed or Floating
 - 1. Material
 - 2. Thickness
 - The construction of the wall is:
 - 1. Material
 - 2. Thickness

guarantee

- (a) The manufacturer shall guarantee all work performed under these specifications to be free from all defects of material or workmanship for a period of 1 year from date of completed installation.

GYM SEAT ACCESSORIES IF REQUIRED

end rails

Removable end rails shall be provided on all open ends, and shall extend from the top down to a point on the gym seat which does not exceed four feet above the floor. Said rails shall be designed and constructed so they are easy to put in, take out, and store.

grilles

Two 4"x30" wire grilles per section, or a series of $\frac{3}{4}$ " wide slots in skirtboards shall be provided for adequate ventilation.

scorer's table

15" wide by 8' long and 1 $\frac{1}{4}$ " thick laminated pressed wood with mar-not formica top. Rounded corners and plastic moulding on all edges. Adjustable folding legs which permit convenient storage in footboard space when stands are closed.

end closure panels

End closure panels of proper size and shape to conceal the under structure from view when gym seats are closed shall be provided to match the woodwork of the gym seat. These end closure panels shall be permanently attached to the unit and to the wall.

aisle steps

Aisle steps shall fit firmly into the footspace so as to become part of the stand and not interfere with its operation. Their tread shall be level with their seatboards and finished to match the seats, they shall be inches long.

tablet arm brackets

Six detachable tablet arm brackets shall be provided per 16' section. They shall match the stands and shall swing into a vertical position for easy access to the seats.

hydraulic dollies

Two roller bearing hydraulic dollies shall be furnished for relocating portable Roll-Out gym seat sections.

tractor units

Provide electrically powered tractor equipped with two 18 x 5.50-8 pneumatic-tired wheels, powered through roller chain and gear train by $\frac{3}{4}$ H.P. 110 volt single-phase motor. Tractor to be provided with 100 feet of 14/4S rubber covered cord with Hubbell twist-lock armored male plug #7411. Reel to be provided on tractor for retrieving 100 foot cord. Extension cords can be provided in 50 feet increments. Tractor to operate at approximately 30 feet per minute.

write, wire or phone collect OSborne 6-2271

HUSSEY MFG. CO., INC.

NORTH BERWICK, MAINE

IRONWORKERS SINCE 1835

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